INPUTS IN PRIMARY SCHOOLS WITH DIFFERENT LEVELS OF CONCENTRATION OF SCHEDULED TRIBE STUDENTS

K.B. RATH
N.K. JANGIRA

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
Sri Aurobindo Marg , New Delhi - 110016
1995

This Study was Funded by World Bank

RESEARCH TEAM

N.K. JANGIRA
K.B. RATH

Design, Analysis and Report Writing

Academic Assistance

Atiqur Rahman Barbhuiya

Secretarial Assistance

N. Panikar
Parash Ram Kaushik

PREFACE

Baseline Assessment Study was carried out to provide an empirical basis for designing suitable intervention strategies for the qualitative and quantitative improvement of primary education. The present study is based on the micro analysis of the Baseline Assessment data. It focuses on one group of disadvantaged population known as Scheduled Tribe Equal educational opportunity should be followed by the equal access An attempt has been made to explore the available school input facilities to tribal students on the basis of their density within schools Four groups were constituted in terms of their different levels of concentration.

I hope the emerging result will be helpful in planning the necessary intervention strategies in the respective states In majority of the states the number of schools in high and average concentration categories is small but the differences in input facilities still exist This has a direct implication on accessibility despite policy resolution to provide equal access to all habitations.

I am highly grateful to Prof. N.K Jangira who initiated this study and provide valuable suggestion time to time till the completion My colleague, specially Anupam Ahuja and Sandhya Paranjep helped me in discussion and finalising this report. I am highly thankful to them

To complete this report Prof. N K. Ambasht was kind enough to provide me computer facilities at the time of dire need. I pay my regards to him.

I am also equally grateful to Marlene Lockheed for her valuable suggestions on the draft report of the study

At the end I express my sincere gratitude to Prof. A K. Sharma, Director and Shri R.S. Pandey, Secretary NCERT for providing full institutional support for the completion of the study

K.B. Rath

LIST OF ACRONYMS

OB : Operation Black Board

SC : Scheduled Caste

ST : Scheduled Tribe

STI : ST Concentration Index

HLM : Hierarchical Linear Modeling

K-W ANOVA : Kruskal-Wallis One Way Analysis of Variance

M-W U : Mann-Whitney U test

ICDS : Integrated Child Development Scheme

DPEP : District Primary Education Programme

Contents

Page No.

List of Tables i

List of Figures ii

Executive Summary 1

Context and Focus 4

Coverage 4

Variables 5

ST Concentration Index 8

Statistical Analysis 9

Results

- School Building 9
- Additional Classroom, Furniture and Equipment 11
- Playground, Drinking Water and Toilets 12
- OB Schemes and Instructional Aids 13
- Preschool and Incentives 14
- Teacher Quality 15
- Multigrade Teaching, Teacher Pupil Ratio and Teacher Attendance 17
- Instructional Time Use 19
- Use of Text Books 21
- Home Work 23
- School Health 23

Implication for DPEP Intervention 25

References 27

List of Tables

SL.No. **Page No**

1 The Number of Districts and Schools 5

2 Variables Covered in the Study 6

3 Number of Schools 8

4 School Building 10

5 Classrooms, Furniture and Equipment 11

6 Playground, Drinking Water and Toilet 12

7. OB Scheme and Instructional Aids 13

8. Preschool Facility and Pupil Incentives 14

9. Qualification of Teachers 15

10. Teachers Training 16

11. Multigrade Teaching, Teacher Attendance and Teacher Pupil Ratio 17

12 Instructional Time 19

13 Text Books Use 21

14 Home Work 23

15. School Health 24

List of Figures

SL. No.		Page No.
1	Total Percentage of ST Enrollment	5A
2	Percentage of Schools in Different Categories of ST Concentration	8A
3	Schools Having Building Facilities	10A
4.	Furniture & Equipments Available	11A
5.	Playground, Drinking Water and Toilet Facilities Available	12A
6.	OB Scheme and Instructional Aids	13A
7.	Teacher Quality	15A
8.	Teachers Training	16A
9.	Multigrade Teaching	18A

EXECUTIVE SUMMARY

The study sought to answer the question Do inputs in primary schools with different levels of concentration of ST students differ? The ST concentration index for schools (STI) was developed On the basis of percentage of ST students enrollment four groups were formed. The enrollment of 75-100 percent formed the school with high concentration Similarly average and low groups were formed with a class interval of 25 in descending order The enrollment up to 24 percent of ST students and schools without ST students were merged in one group For this minor percentage of enrollment (1-24%) no separate group was constituted because the existing input facilities in the school cater to the needs of both non ST and ST students and they are functionally integrated

The input variables included physical facilities and services like safe drinking water and toilets, coverage by OB scheme and instructional aids, availability of preschools and incentives, teacher quality, teaching patterns, and school health facilities

Salient Findings

A. Physical Facilities and Services

1. By and large, the schools with different concentration of ST students do not differ significantly with regard to building facilities In Madhya Pradesh schools with high concentration of ST students have more building facilities than schools of no ST group

2 Out of all the states in Madhya Pradesh, schools with high concentration of ST students have 20 percent of pucca building facilities in comparison to no ST group

3 In the state of Kerala and Madhya Pradesh, the requirement of additional classroom was significantly higher in schools under no ST group as compared to the other

4. Furniture and equipments were available less in schools under low concentration category in Maharashtra, average concentration in Orissa and high concentration in Tamilnadu in comparison to schools of no ST group

5 In Madhya Pradesh higher percentage of schools in average concentration category had play ground facilities than schools of no ST group

6. Toilet facilities are available in few schools, but in Madhya Pradesh for the group having high concentration of ST students, tiolet facilities were significantly less than the other groups.

7 Schools with high concentration of ST students had significantly less safe drinking water facilities than schools of low concentration group

B. OB Scheme & Instructional Aids

8 In Orissa the percentage of schools covered under OB scheme was significantly less in average concentration category than no ST group Also significantly less percentage of schools with high concentration of ST students in Tamilnadu was covered under OB Scheme In Kerala average and low concentration group had more schools under OB scheme than no ST group.

9. In Madhya Pradesh and Tamilnadu the percentage of schools with high concentration of ST students had less instructional aids than no ST groups In Assam the schools under high, average and low concentration category had significantly less instructional aids than schools of no ST groups

C. Preschool and Pupil Incentives

10 Almost all the schools had less preschool facilities but this was not statistically significant in all the states except Madhya Pradesh In this state schools with low concentration of ST students had more preschool facilities than the other three categories.

11 Schools with high concentration of ST students in Tamilnadu had significantly less pupil incentives than the other three categories

D. Teacher Quality

12 Percentage of teachers with less qualification and below 10 years of schooling were more in schools with high, average and low concentration of ST students in Assam. In Madhya Pradesh, schools with high concentration of ST students had less percentage of teacher below 10 years of schooling than other three categories

13. In Assam, Madhya Pradesh and Tamilnadu schools with high concentration of ST students had higher percentage of trained teachers. In respect of inservice training, schools under high concentration category in Madhya Pradesh, Maharashtra and Orissa had significantly less number of days of inservice training than schools of no ST group

14. The teaching experience of the teachers was significantly less in school with high concentration of ST students in Assam and Madya Pradesh

15 In Assam, Madhya Pradesh, Maharashtra and Orissa the percentage of teachers involved in multigrade teaching was significantly higher in schools of high concentration category than other three categories

16. There was practically no difference with respect to teacher pupil ratio, teacher attendance, use of textbooks, etc among different groups of schools.

Conclusion

Intervention strategies need to focus on improvement of physical facilities (building, furniture and equipment), coverage by OB scheme, supply of instructional aids and teacher quality Priority should be given to inservice training focussed on multigrade teaching, tribal language and culture aspect of tribals which are required in schools with high concentration of ST students in the state of Assam, Maharashtra, Madhya Pradesh, Orissa and Tamil Nadu

INPUTS IN PRIMARY SCHOOLS WITH DIFFERENT LEVELS OF CONCENTRATION OF SCHEDULED TRIBE STUDENTS

Context and Focus

Scheduled Tribes constitute disadvantaged segment of population in India. Scheduled caste population is scattered all over because of the job sharing prevalent in the caste system in India Scheduled tribes have a variety of scatter. There are locations which are totally inhabited by tribal communities.They live in tribal groups.Tribal groups in some of the area have integrated with the rest of the communities in some areas due to mobility engineered by development push or natural disasters. Tribal communities are represented in small measure in non-tribal areas through organised employment.

The educational development of tribal communities also followed a different course affecting their development. For example, in tribal population, the development is preceded by intensive education development. So the tribal communities are relatively better on quality of life indicators. The situations however is different in plains. The education remains low among the tribal communities and the development activities pushed them further due to their withdrawal tendency to preserve their culture. Despite positive discrimination and special attention of the state and the federal government s,education and economic levels remain low.

The baseline assessment study on learning achievement indicates low level of performance and high rate of drop out among tribal students. With reference to their achievement as reported in Baseline Study, the mean score of mathematics and language varies from 5 to 19 and 9 to 24 respectively (Jangira et.al.,1994). Also the poor performance of SC/ ST children in mathematics is reported by HLM analysis in the state of Tamilnadu (Rath & Saxena,1995). The school inputs therefore assume significance. Do inputs differ in schools with different concentration of tribal children ? It is a logical question. The present study based on the reanalysis of the baseline assessment study on learning achievement seeks to answer this question.

Coverage

Micro analysis of baseline assessment study on learning achievement conducted in DPEP districts was carried out to investigate the status of inputs in primary schools with different levels of concentration of ST students. The total percentage of ST enrollment in primary schools of respective states were calculated prior to find out their concentration level in the selected schools included for investigation. As shown in Fig. 1, high percentage of ST enrollment is in Orissa where as, it is quite low in Tamilnadu. The number of districts, schools covered and the total percentage of ST enrollment in the states are given in Table 1.

Table 1: The Number of Districts and Schools

State	*Total % of Enrollment	Number of Districts	Number of Schools
Assam	18 31	4	161
Kerala	1.23	3	113
Madhya Pradesh	15.42	19	808
Maharashtra	9.59	3	135
Orissa	21.06	4	165
Tamil Nadu	92	3	120
Total		36	1502

* *Source: Selected Educational Statistics on Sept. 1993 (Studies in Educational Statistics No. 5) MHRD, 1994*

Variables

The variables involved in the study are 'ST concentration index' and 'school inputs'. The school inputs were classified. The school building and services covered ownership of the building, type of building, additional requirement of classroom, availability of playground, safe drinking water, toilet facilities, furniture and equipment. The coverage of the school by OB scheme and instructional aids also form a component of the physical facilities. Preschool and incentive schemes to children were also covered. Another significant category relates to teacher quality which covers education and professional training. The latter includes initial training, inservice training and teacher experience. Multigrade teaching, teacher attendance and teacher pupil ratio also fall in this category. Teaching patterns constitute another dimension of inputs to schooling. It covers time for teaching,time for talking with pupils, group learning practice, home work, opportunity to read aloud and the use of textbooks. Health facilities include availability of first aid kits, provision of health check-up and immunization. The variables along with variable description and statistics used are summarised in Table 2.

Total Percentage of ST Enrollment
in Primary Schools

Fig. 1

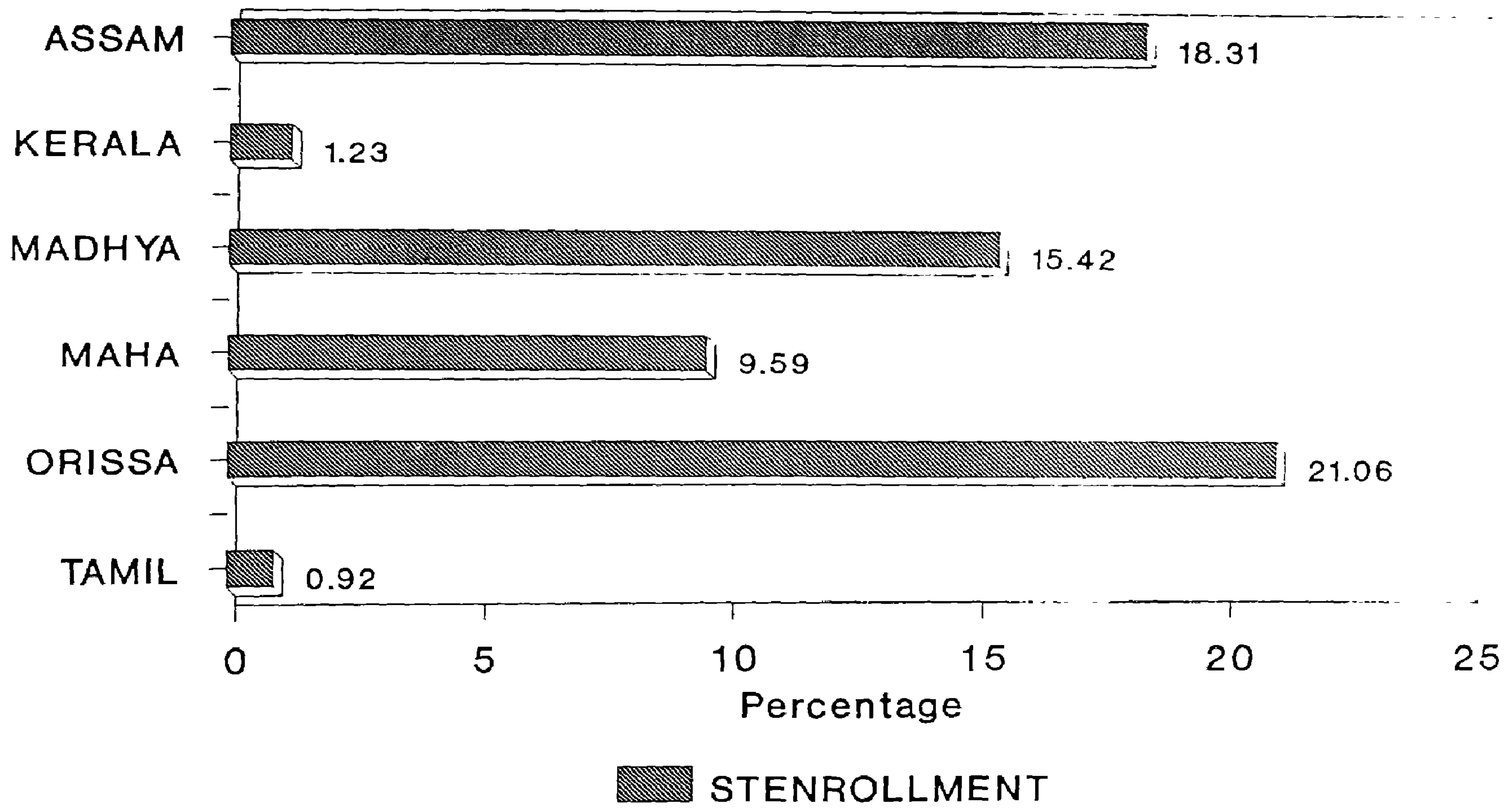


Table 2: Variables Covered in the Study

Variables Name	Code	Variable Description	Statistics Used
School Building And Services			
Building	BDGO	% Own Building	Chi-Square
Pucca Building	BDGPC	% Building	-do-
Additional Classroom	ADCL	Numbers of Classroom	K-W ANOVA
Furniture and Equipments (Total 9 items)	FEQT	Numbers of FEQT available	-do-
Play Ground	PLG	% schools having playground	Chi-square
Safe Drinking Water	SDW	% schools having sdw facilities	-do-
Toilet	TLT	% schools having TLT facilities	-do-
OB coverage			
OB Scheme	OB	% of schools covered by OB	-do-
Instructional Aids	INAD	Numbers of INAD available	K-W ANOVA
Pre-school and Incentives			
Pre-school Facility	PSC	% of schools having PSC facilities	Chi-square
Pupil Incentive	PINC	% of schools having PINC	-do-

Table 2: Variables Covered in the Study

Variables Name	Code	Variable Description	Statistics Used
Teacher Quality			
Academic Qualification	AQUAL	8th=1,Matric=2, H S=3 Grad=4, PG=5	K-W ANOVA
Below Class 10	BLX	Mean % of BLX	K-W ANOVA
Initial Training	INTR	Mean % of INTR	K-W ANOVA
Inservice Training	INSET	Number of Days	K-W ANOVA
Teaching Experience	TEXP	Numbers of Years	K-W ANOVA
Multigrade Teaching	MGT	% of Teachers adopt MGT	K-W ANOVA
Teacher Attendance	TAT	Always=1 Max.time=2,Som Time=3 Very Few=4	K-W ANOVA
Teacher Pupil Ratio	TPR	Ratio	K-W ANOVA
Teaching Pattern			
Total Hours Devoted to Teaching	HRT	Hours	K-W ANOVA
Time for Talking With Pupil	TLK	Minutes	K-W ANOVA
Time for Group Learning	GRL	Minutes	K-W ANOVA
Time for Practice	PRACT	Minutes	K-W ANOVA
Time for Home Work correction and Feedback	HCRT	Minutes	K-W ANOVA
Home Work Given	HWG	Regularly =1,Sometime=2, Not at all=3	K-W ANOVA
Teacher Read Textbook	TXTR	Mean Yes	K-W ANOVA
Child Read Aloud	CHR	Mean Yes	K-W ANOVA
Child Self Read	CHRS	Mean Yes	K-W ANOVA
Textbook Home Work	HTXT	Mean Yes	K-W ANOVA

ST Concentration Index (STI)

An index indicating the concentration level of ST students in primary schools was constructed. Percentage of ST students in each school was worked out and frequency distribution for each state was investigated. Schools having 75-100 percent enrollment of ST students was considered as the high concentration group The enrollment of 50-74 and 25 to 49 percent were categorised in to average and low concentration group respectively. High and average groups were major focus in this study because these schools may be equipped with more facilities due to various beneficial programmes launched by Ministry of Social and Human Resource Development. The fourth category consist of 0-24 percentage of enrollment where percentage of schools without any ST students were mentioned. To level this percentage (1-24%) of ST children may not be meaningful as they are functionally integrated with other students in the school system. The percentage of schools fall under each category is presented in Fig. 2. The procedure was applied to each of the states. The description of schools in different categories is given in Table 3.

Table 3: Number of Schools

State	High Concentration (75-100%)	Average Concentration (50-74%)	Low Concentration (25-49%)	No ST (0-24%)	Total**
Assam	36	10	9	104 (86.5)*	159
Kerala	0	4	10	99 (69.7)	113
Madhya Pradesh	69	58	90	543 (36.1)	760
Maharashtra	4	3	11	108 (34.3)	126
Orissa	29	25	32	78 (16.7)	164
Tamil Nadu	6	2	1	104 (73.1)	113
Total	144	102	153	1036	1435

* Paranthesis value shows the percentage of schools not having ST students
** Missing cases are excluded

Percentage of Schools in Different Category of ST Concentration

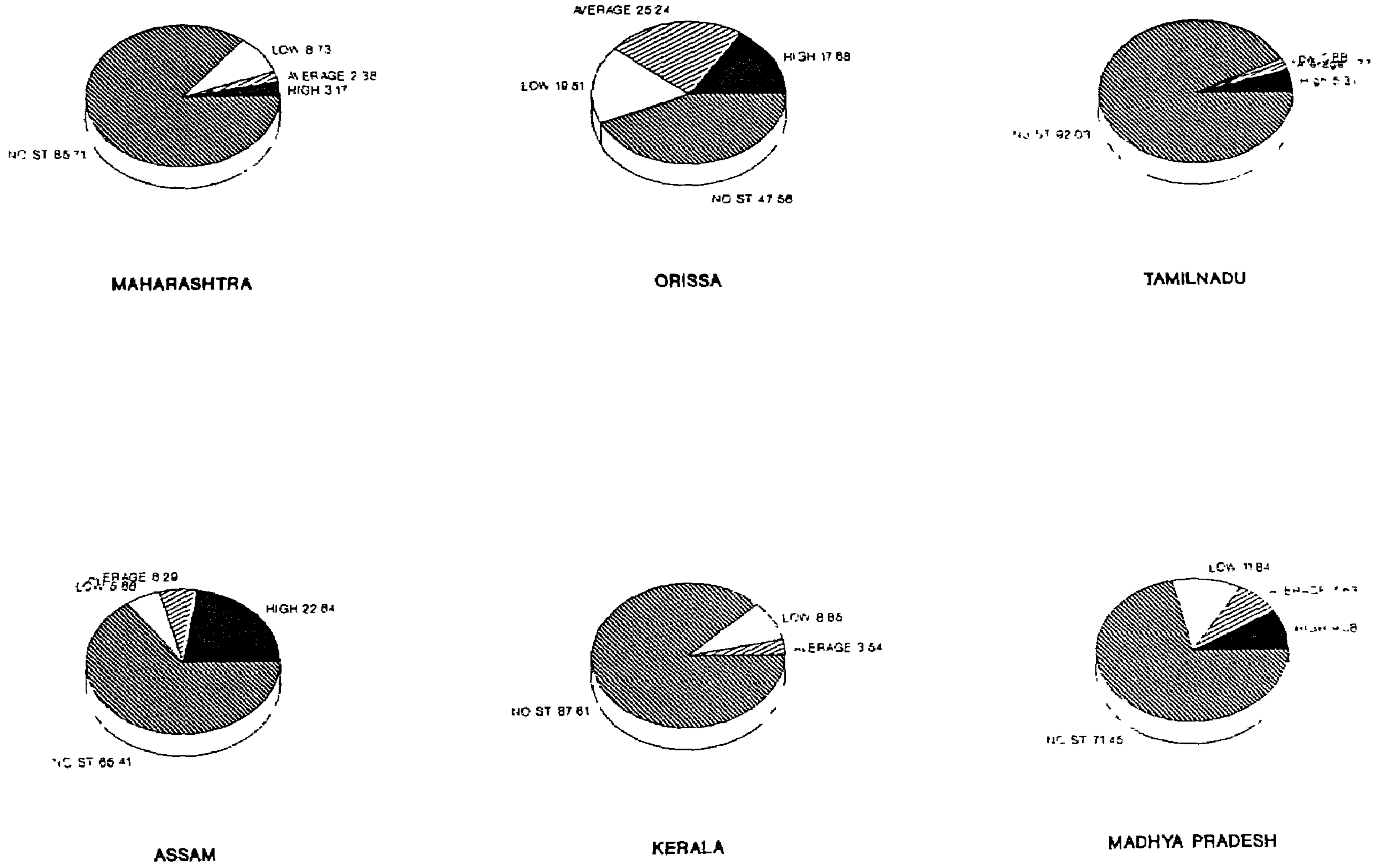


Fig. 2

Statistical Analysis

The distribution of ST enrollment percentage in each state indicated a negative skewed distribution. Therefore Non Parametric statistics were used for studying the significance of difference between the levels of inputs in schools in the four categories. For the variables with dichotomous response like ownership of school building, pucca and other buildings, etc. Chi-Square was used. For variables which had continuous scores achieved through aggregation of items or scaling, Kruskal-Wallis One Way Analysis of Variance (K-W ANOVA) was used. In this statistics each observation is replaced by ranks. The lowest value is replaced with rank 1, and the highest value with total number of cases in the observation. To test the significance of difference, group mean ranks are compared by obtaining a Chi-square value. However in the tabular presentation, mean and SD of respective variables are presented in place of mean ranks for meaningful interpretation. Only Chi-square value obtained from K-W ANOVA with its probability level are mentioned against the mean and SD. Mann-Whitney U test was applied to find out significance of difference between different pairs of means. The power-efficiency of these two tests are 95.5 percent when compared to F and t-test respectively (Siegel, 1956).

Results

School Building

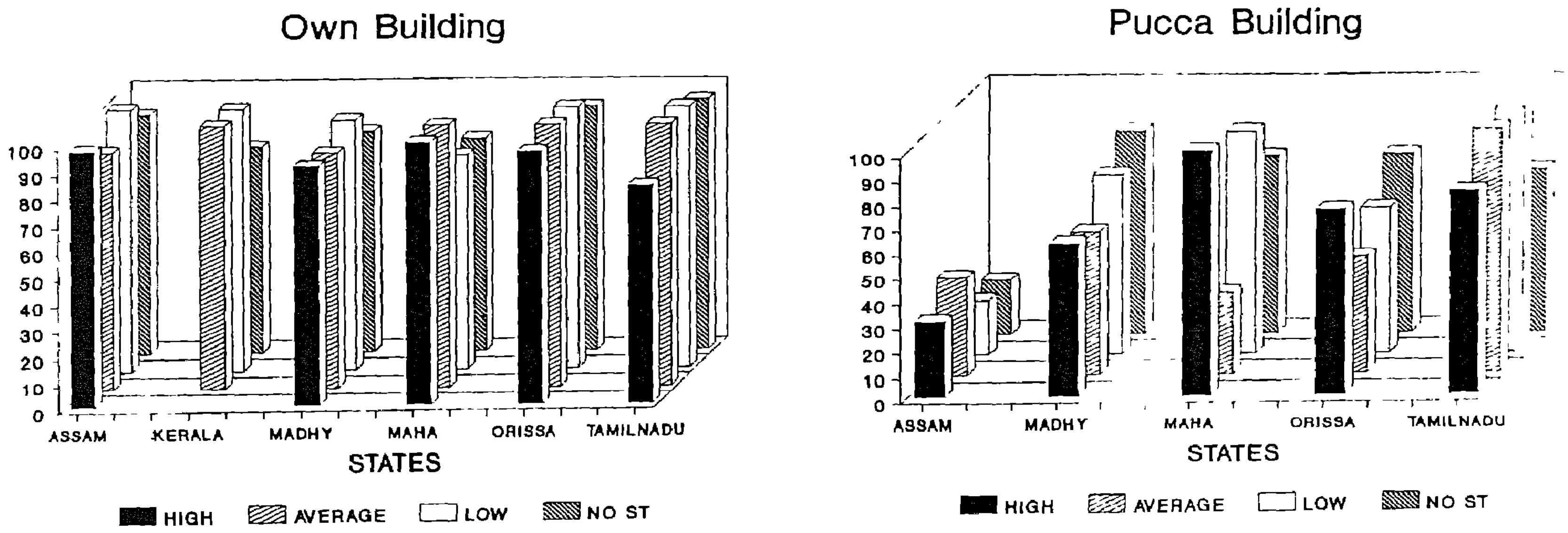
Table 4 represents the percentage of schools in different categories having own building and pucca building facilities. The results reveal no significant difference among the four categories of schools in respect of buildings except in Madhya Pradesh. In Madhya Pradesh the schools with high concentration of ST students had significantly higher percentage of own buildings than no ST groups. Where as average concentration group lacked pucca building facilities in comparison to other three groups. High concentration group lagged behind 20 percent of pucca building facilities in comparison to no ST group. Though the P-value were not significant in case of other states but schools with high concentration of ST students were equipped with better building facilities (Fig. 3). The special facilities for tribal areas under the tribal sub-plan and assistance from the Ministry of Welfare might have helped.

Table 4: School Building

State	School Facility	Percentage of Schools Having the Facility				Chi-Square	P-Value
		High Conc.	Average Conc.	Low Conc	No ST		
Assam	Building	97.2	90.0	100	91.3	2.26	.52
	Pucca Building	30.6	40.0	22.2	22.1	2.28	.52
Kerala	Building	N.A	100	100	78.8	3.65	.16
	Pucca Building	N.A	N.A	N.A	N.A	N.A	NA
Madhya Pradesh	Building	91.3	89.7	95.6	84.5	10.12	.02*
	Pucca Building	62.3	58.6	73.3	82.5	29.89	.001**
Maharashtra	Building	100	100	81.8	81.5	1.57	.67
	Pucca Building	100	33.3	90.9	72.2	5.77	.12
Orissa	Building	96.6	100	100	93.6	3.84	.28
	Pucca Building	75.9	48.0	59.4	73.1	7.26	.06
Tamil Nadu	Building	83.3	100	100	96.2	2.35	.50
	Pucca Building	83.3	100	100	66.3	2.19	.53

Schools Having Building Facilities

Fig. 3



Own Building

Pucca Building

Additional Classroom, Furniture and Equipment

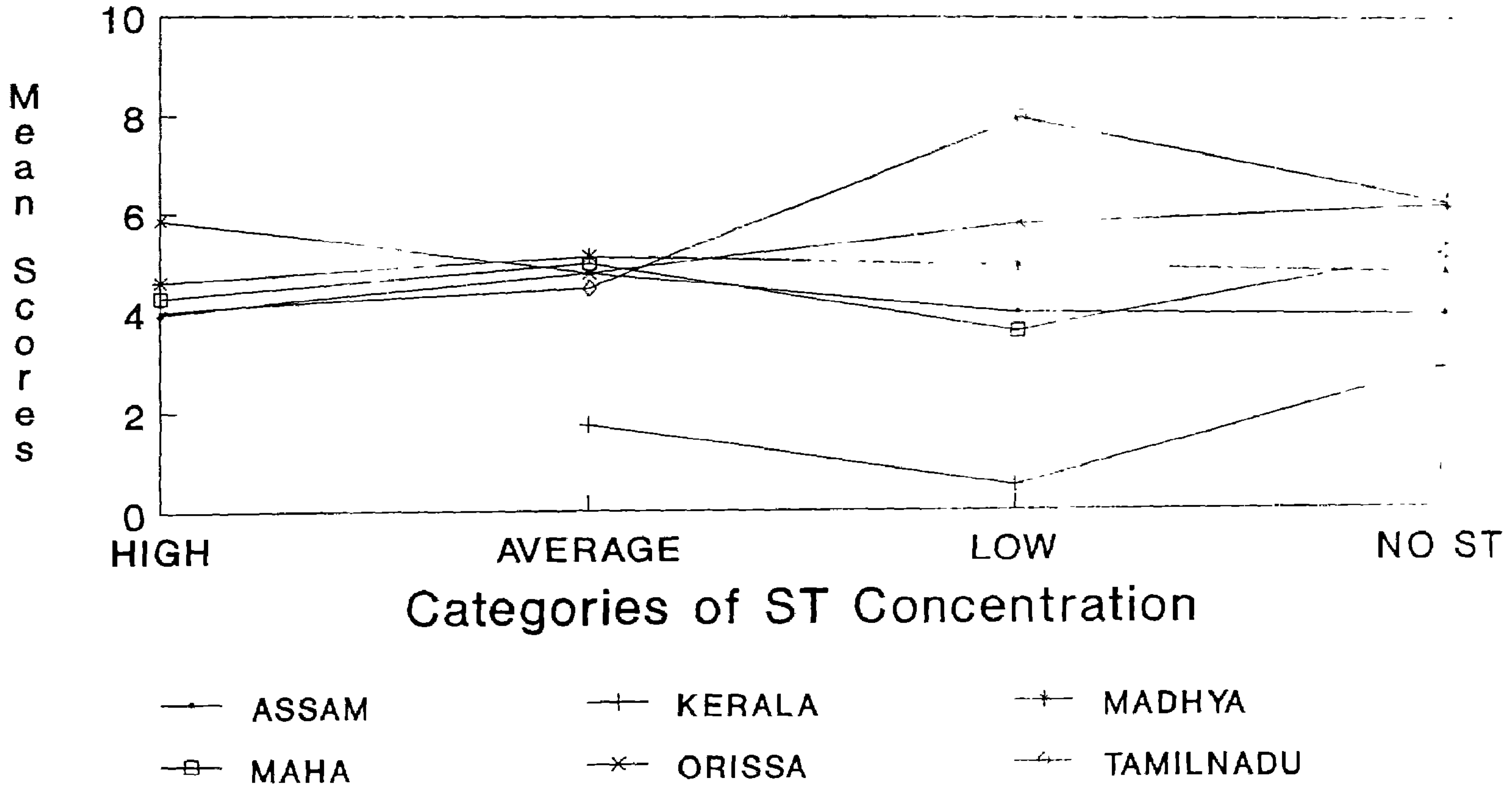
Regarding availability of physical facilities, Table 5 includes the analysis of additional classroom required and existing furniture and equipment facilities in the schools under these four categories. Practically the requirement of extra classroom was not very different among the four groups which is especially dependent on size of the class. In the context of furniture and equipment facilities low concentration group in the State of Maharashtra, average concentration group in Orissa (Z=-3.03, P<.01), and high group in Tamil Nadu (Z=-2.13, P<.03) fall behind the no ST group (Fig. 4). On an average, the schools under no ST group had more furniture than those with high density of ST students (Table 5). More schools had building (Table 4), but less had furniture and equipments Is it due to lack of supplies or due to culture of not using furniture is a question needing further investigation.

Table 5: Classrooms, Furniture and Equipment

State	School Facility	Mean, Standard Deviation of Schools Having the Facilities								Chi-Square	P-Value
		High conc		Average Conc		Low Conc		No ST			
		Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D		
Assam	Additional Classroom	2.16	1.56	2.30	0.82	2.55	0.88	2.48	1.64	1.27	0.74
	Furniture and Equipments	3.94	1.58	4.80	1.62	4.00	0.86	3.95	1.88	1.82	0.61
Kerala	Additional Classroom	N A	N A	1.75	1.26	0.50	0.70	2.86	2.64	9.38	0.01**
	Furniture and Equipments	N A	N A	2.00	1.15	4.50	1.78	3.59	1.71	6.30	0.04*
Madhya Pradesh	Additional Classroom	2.18	1.77	2.10	1.96	2.21	1.49	2.57	1.87	7.61	0.05*
	Furniture and Equipments	4.58	2.07	5.14	1.83	4.97	2.20	4.80	2.29	2.45	0.48
Maha-rashtra	Additional Classroom	2.25	1.50	1.33	0.57	2.45	1.21	1.83	1.36	3.61	0.30
	Furniture and Equipments	4.25	1.71	5.00	1.00	3.63	1.91	5.24	1.77	8.66	0.03*
Orissa	Additional Classroom	2.45	1.55	2.80	1.47	2.66	1.49	2.38	1.66	3.56	0.31
	Furniture and Equipments	5.86	2.09	4.80	2.04	5.84	1.85	6.20	1.73	8.97	0.03*
Tamil-nadu	Additional Classroom	2.66	1.03	3.00	00	00	00	2.09	1.42	4.57	0.20
	Furniture and Equipments	4.00	2.83	4.50	3.53	8.00	00	6.26	2.18	6.27	0.09

Furniture & Equipments Available

Fig. 4



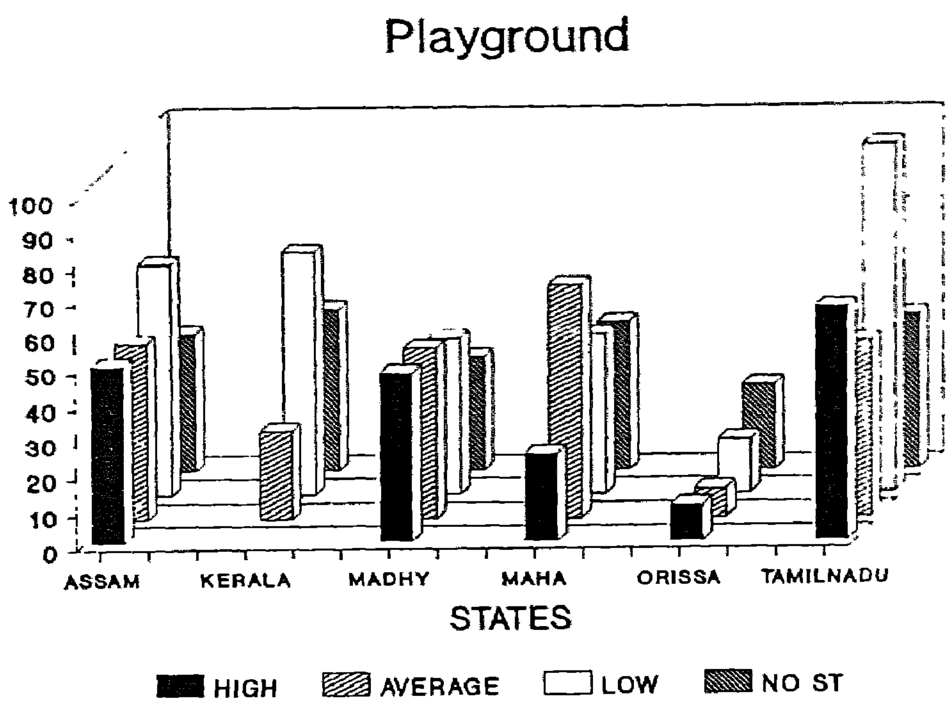
Playground, Drinking Water and Toilets

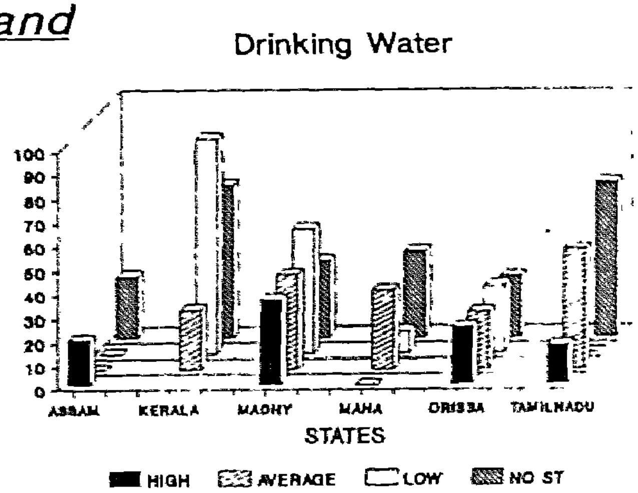
In Madhya Pradesh the differences in the schools having play ground was significant but more schools with average concentration of ST students have more play grounds than schools under no ST group. The play ground facilities in schools of Maharashtra and Orissa covered in this study were below 50 percent which is not only specific to schools with ST students. In Madhya Pradesh 36 percent of school with high concentration of ST students were provided with safe drinking water facilities which was significantly less than low concentration group. In Assam, Maharashtra and Orissa however these facilities were available in less quantity for all schools. Toilet facilities were very poor in all the states except Kerala. Especially in Madhya Pradesh schools with average and high concentration of ST students had significantly less toilet facilities than schools under no ST and low concentration group (Fig. 5). In almost all the states special attention is required for providing drinking water and toilet facilities to school with and without ST students. Regarding playground facilities special attention is required in Madhya Pradesh and Orissa.

Table 6: Playground, Drinking water and Toilet

State	School Facility	Percentage of Schools Having the Facility				Chi-Square	P-Value
		High Conc	Average Conc	Low Conc	No ST		
Assam	Playground	50.00	50 00	66 7	39.4	3 43	0.33
	Safe Drinking Water	19 40	00	00	26.0	6.54	0 09
	Toilet	5 6	10 0	11 1	11 5	1 07	0.78
Kerala	Playground	N A	25 0	70 0	46.5	2.88	0.24
	Safe Drinking Water	N A	25 0	90 0	63.6	5.60	0 06
	Toilet	N A	75 0	60 0	64 6	0.28	0 87
Madhya Pradesh	Playground	47.8	48.3	44.4	32 4	13.66	0.01**
	Safe Drinking Water	36.2	39 7	52 2	32 2	13.98	0 01**
	Toilet	8 7	6 9	15 6	18.2	8.24	0 04*
Maharashtra	Playground	25 0	66 7	45 5	42 6	1.25	0.74
	Safe Drinking Water	00	33 3	9 1	36 1	5 31	0 15
	Toilet	00	33.3	00	18 5	3 86	0 27
Orissa	Playground	10 3	8 0	15 6	24 4	5.16	0 16
	Safe Drinking Water	24 1	24 0	28 1	25.6	0.17	0 98
	Toilet	00	4 0	3 1	12 8	7.01	0 07
Tamil Nadu	Playground	66.7	50 0	100	44.2	2 35	0.50
	Safe Drinking Water	16 7	50 0	00	64.4	7 14	0 08
	Toilet	00	00	00	8 7	0 85	0 84

Playground, Drinking Water and Toilet Facilities Available





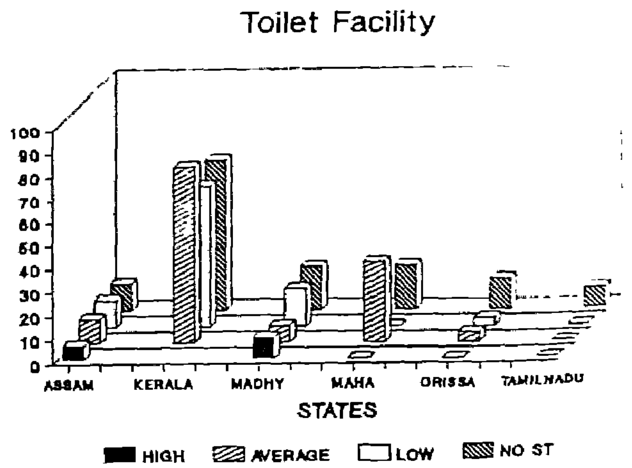


Fig. 5

OB Scheme and Instructional Aids

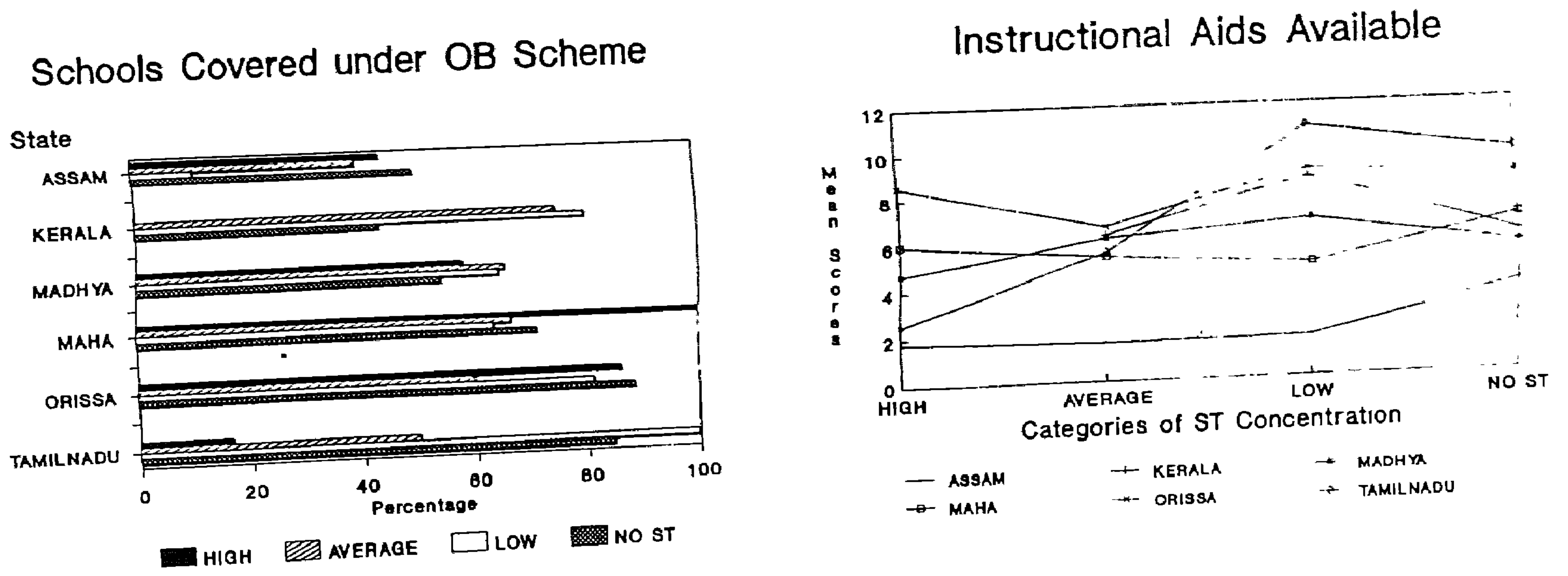
Table 7 indicates results regarding the coverage of schools by OB scheme and availability of instructional aids. The availability of 12 instructional aids: maps, globes, charts, toys, games kit, science kit, mini tool kit, reference book, children books, magazines and musical instruments were aggregated with the score of one for each set of the item. In Orissa, percentage of schools having 50-74 percent of ST students (average group) covered by OB scheme was significantly lower than schools under no ST group. In Tamil Nadu school covered under OB scheme was significantly lower in high concentration group. Six schools were clustered in this group and only 17 percent of those schools were covered under OB schemes. It requires further intervention In Assam, Madhya Pradesh and Tamilnadu ,schools with high concentration of ST students had significantly (Assam Z=-2.85, P<.01, Madhya Pradesh Z=-3.14, P<.01) less instructional aids than schools under no ST group. The percentage of schools covered under OB scheme and availability of instructional aids are presented in Fig. 6. Most of these instructional aids were supplied under OB scheme. When schools were covered under OB scheme but having less instructional aids implies that either those materials were not reached to the school or not used by the teacher. Necessary supervision and teacher training programme should be arranged for the effective implementation of OB scheme especially in the DPEP states of Assam, Madhya Pradesh and Tamil Nadu.

Table 7: OB Scheme and Instructional Aids

State	School Facility	Mean, Standard Deviation or Percentage of Schools Having the Facilities								Chi-Square	P-Value
		High conc		Average Conc		Low Conc		No ST			
		Mean	S D	Mean	S D	Mean	S.D	Mean	S D		
Assam	OB Scheme	44.4	--	40.0	--	11.1	--	50.0	--	5.26	0.15
	Instructional Aids	1.80	2.29	1.60	1.43	1.67	2.50	3.69	3.47	11.51	0.01**
Kerala	OB Scheme	N.A	N.A	75.0	--	80.0	--	43.4	--	6.10	0.05*
	Instructional Aids	N.A	N.A	6.25	4.50	8.70	2.67	5.98	3.47	5.45	0.06
Madhya Pradesh	OB Scheme	58.0	--	65.5	--	64.4	--	54.1	--	5.52	0.14
	Instructional Aids	4.68	3.92	6.12	4.28	6.73	4.17	5.48	4.22	11.93	0.01**
Maha-rashtra	OB Scheme	100	--	66.7	--	63.6	--	71.3	--	1.96	0.58
	Instructional Aids	6.00	2.16	5.33	5.13	4.82	3.25	6.68	3.20	4.29	0.23
Orissa	OB Scheme	86.2	--	60.0	--	81.3	--	88.5	--	10.90	0.01**
	Instructional Aids	8.55	3.78	6.60	4.17	9.09	2.83	8.74	2.91	5.88	0.11
Tamil-nadu	OB Scheme	16.7	--	50.0	--	100	--	84.6	--	18.14	0.01**
	Instructional Aids	2.50	4.23	5.50	7.78	11.0	00	9.88	2.90	10.75	0.01**

OB Scheme and Instructional Aids

Fig. 6



Schools Covered under OB Scheme

Instructional Aids Available

Preschool and Incentives

Table 8 represents the Pre-school facilities and pupil incentive schemes available to the schools with different concentration of ST students Only in Madhya Pradesh schools with high concentration of ST students had 10 percent less pre-school facilities than schools with low concentration of ST students. However in general the availability of pre-school facility was very low in all the states under study. The intervention research supported the significant contribution of pre-school experience on quality and quantity of learning. Disadvantaged children were more benifitted (Murlidharan and Banerjee, 1974). Therefore, specific provision should be made in general to provide pre-school facilities to the ST students at early age. Percentage of the Schools with high concentration of ST students in Tamil Nadu had significantly less pupil incentives than other three categories. In Orissa the availability of pupil incentive schemes varies from 78% to 83% in four categories despite such a provision in state policy needs further investigation. In other states schools in all the four categories had one or other form of incentive schemes without any exception.

Table 8: Preschool Facility and Pupil Incentives

State	School Facility	Percentage of Schools Having the Facility				Chi-Square	P-Value
		High Conc.	Average Conc.	Low Conc	No ST		
Assam	Preschool Facility	8.3	10.0	22.2	17.3	2.24	0.52
	Pupil Incentives	94.4	80.0	88.9	83.7	2.99	0.39
Kerala	Preschool Facility	N.A	00	10.0	1.0	4.30	0.12
	Pupil Incentives	N.A	100	100	100	--	--
Madhya Pradesh	Preschool Facility	10.1	10.3	20.0	9.9	7.99	0.05*
	Pupil Incentives	91.3	91.4	95.6	94.3	2.04	0.56
Maharashtra	Preschool Facility	25	33.3	18.2	41.7	2.69	0.44
	Pupil Incentives	100	100	90.9	81.5	2.12	0.54
Orissa	Preschool Facility	13.8	4.0	12.5	9.0	1.80	0.61
	Pupil Incentives	82.8	80.0	81.3	78.2	0.32	0.95
Tamil Nadu	Preschool Facility	00	00	00	10.6	1.05	0.79
	Pupil Incentives	83.3	100	100	99.0	8.10	0.04*

Teacher Quality

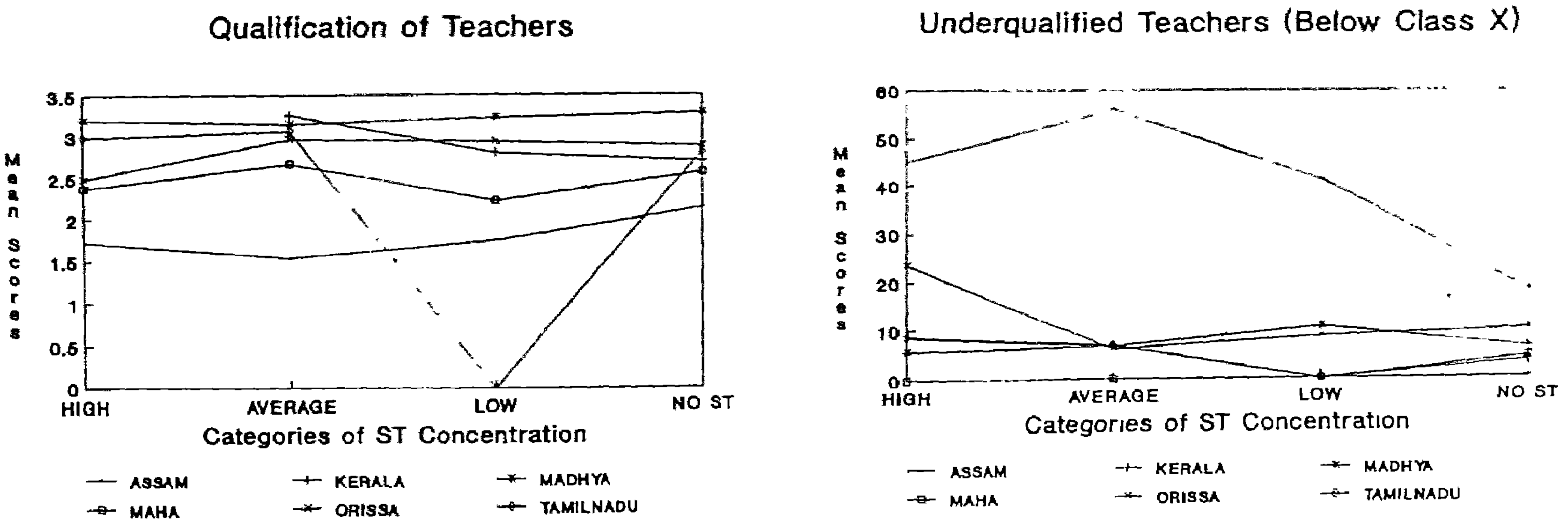
Five input measures of teacher quality were studied. Teachers academic qualifications was treated as overall measure with aggregations of qualifications ranging from 10 years of schooling to 16 years of education. Each level was given a score of 1. The maximum score for a teacher was 5. The second measure was teachers with below 10 years of schooling. In Assam the mean teacher qualification score was significantly higher for school under no ST group (Z=-3.58, P < .001) than the schools with high concentration of ST students. The same trend was found in the state of Orissa (Z=-2.05, P < .04). It implies that in these states schools with high concentration of ST students required more qualified teachers for imparting quality education.It is surprising to note that in case of Assam the schools with high concentration of ST students had not only more number of less qualified teachers but also more numbers of under qualified teachers (teachers below class 10th) . This finding needs special attention (Fig. 7). In Orissa the same pattern of result was observed though it was not statistically significant. In Madhy Pradesh underqualified teachers were less in high concentration category where as it was more in low concentration category. Except Kerala all the states under the study were more or less burdened with under qualified teachers which focuses the need of educational training programmes for the teachers to provide opportunity for their educational and professional development.

Table 9: Qualification of Teachers

State	Items	Qualification of Teachers								Chi-Square	P-Value
		High conc		Average Conc		Low Conc		No ST			
		Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D		
Assam	Qualification	1.73	0.64	1.53	0.55	1.75	0.53	2.13	0.55	19.67	.001**
	Below Class X	45.00	40.12	56.00	43.32	41.11	39.83	18.01	27.57	21.10	.001**
Kerala	Qualification	N.A	N.A	3.26	0.38	2.80	0.51	2.70	0.38	6.71	.03*
	Below Class X	N.A	N.A	00	00	00	00	0.20	2.01	0.14	0.93
Madhya Pradesh	Qualification	3.20	0.80	3.15	0.99	3.23	0.88	3.29	0.76	3.27	0.35
	Below Class X	5.79	18.26	6.61	23.35	10.59	21.96	6.20	17.26	7.59	0.05*
Maha-rashtra	Qualification	2.37	0.75	2.67	1.15	2.22	0.38	2.57	0.63	4.03	0.26
	Below Class X	00	00	00	00	00	00	4.03	11.96	2.38	0.49
Orissa	Qualification	2.49	0.86	2.96	0.62	2.94	0.62	2.89	0.65	6.14	0.10
	Below Class X	23.56	34.65	6.00	14.34	8.54	18.77	9.97	16.19	5.87	0.12
Tamil-nadu	Qualification	2.98	0.36	3.06	00	00	00	2.81	0.49	0.47	0.79
	Below Class X	8.63	6.62	6.67	00	00	00	3.27	9.24	8.07	0.02*

Teacher Quality

Fig. 7



Qualification of Teachers

Underqualified Teachers (Below Class X)

In Table 10, the percentage of trained teachers, the duration of inservice training and the no of years in teaching experience in different categories of schools were analysed. In Tamilnadu and Madhya Pradesh, schools in high concentration category had significantly higher percentage (Z=-3.11, P<.002 and Z=-3.73,P<.001 respectively) of trained teachers than schools under no ST group. The same trend of result was observed in Assam also. The situation was however different in case of inservice training in Madhya Pradesh and Maharashtra where the schools under no ST group had higher mean number of days of inservice training. While reverse was in the case of Kerala. In Assam the schools with low concentration and no ST students had significantly more experienced teachers in terms of years of training than in other categories The same pattern of result was also found in Madhya Pradesh. From this result a general observation can be made that the duration of inservice training was quite low in almost all the states, specially in Madhya Pradesh where high percentage of trained teachers were existing in schools of high concentration category but having less teaching experience and inservice training (Fig. 8). This situation call for, a) improved opportunity for inservice education and training for teachers in tribal area, b) formulation of rational teachers requirement and placement policy and c) incentive scheme for qualified and trained teachers to work in schools with high concentration of tribal students.

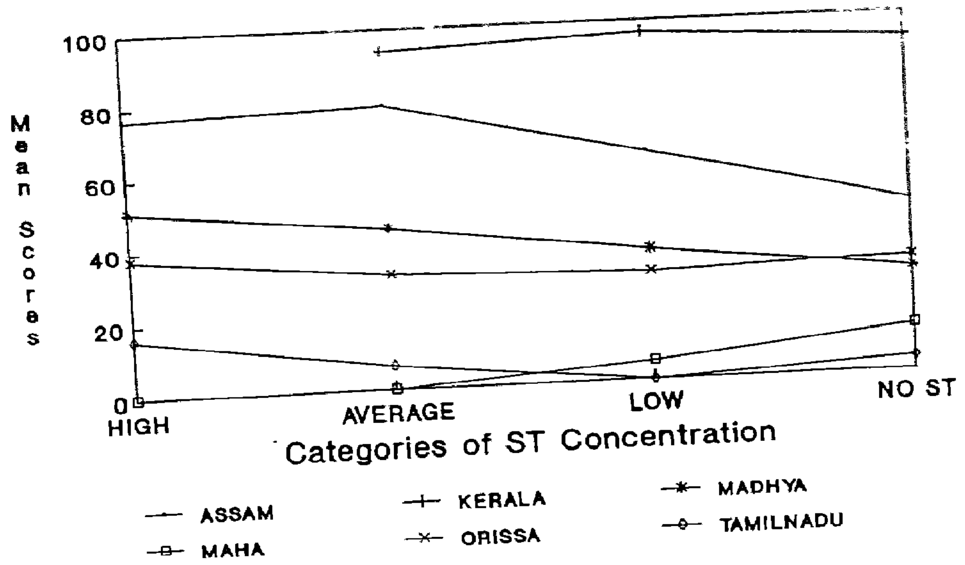
Table 10: Teachers Training

State	Items	Initial and Inservice Training of Teachers								Chi-Square	P-Value
		High conc.		Average Conc.		Low Conc.		No ST			
		Mean	S D	Mean	S D	Mean	S D	Mean	S.D		
Assam	Trained	76 67	33 29	79 00	33 48	63 70	24 84	47 95	30 99	24 71	001**
	Inservice	4 06	4 79	1 75	2.68	3 10	4 05	4 84	6 43	4 38	0.22
	Teaching Exp	12 62	7.82	14 11	6 89	16 94	9 24	16.12	7 11	6 66	0 08
Kerala	Trained	N A	N A	95 75	12 50	96 67	10 54	93.72	13 05	0 69	0 71
	Inservice	N A	N A	21 56	14 38	20 70	5 43	14.70	9.51	5 96	0.05*
	Teaching Exp	N A	N A	13 98	4 85	12.21	5 26	14 14	4.89	1.88	0.39
Madhya Pradesh	Trained	51.21	45 58	44 54	41 74	36 31	38.21	28.87	34 38	18.69	.001**
	Inservice	8.07	10 47	11.51	14 21	13 57	17 43	13 74	14.72	12.90	0.01**
	Teaching Exp	11.36	8 54	13 30	7.71	17.03	9 18	16 77	8 32	34.27	.001**
Maha-rashtra	Trained	00	00	00	00	5 30	11 94	12.81	22 57	3.83	0 28
	Inservice	2 50	5 00	8 11	7 57	16.15	12 70	21 45	17 98	8 57	0.04*
	Teaching Exp	16.12	13 02	8 33	9.45	15.93	7.72	16.04	8 53	2 03	0 57
Orissa	Trained	37 93	41 99	31 80	30 69	30.10	26 96	31 96	32 03	0.12	0.98
	Inservice	5 54	5 38	5 20	6 11	6 82	5 05	9.23	9 73	8 67	0 03*
	Teaching Exp	15 65	8 69	12 46	6 45	14.25	6 41	14 86	5 58	2 39	0 49
Tamil-nadu	Trained	16 10	16 73	6 6	00	00	00	3 73	9.48	10 54	0 01**
	Inservice	16 47	1 93	21 07	00	00	00	18 75	7 06	1.49	0 47
	Teaching Exp	20 89	5 41	15 05	00	00	00	20 54	4 77	1 27	0 53

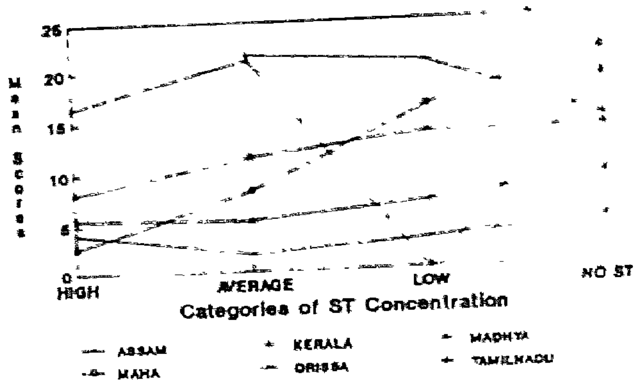
Teachers Training

Fig. 8

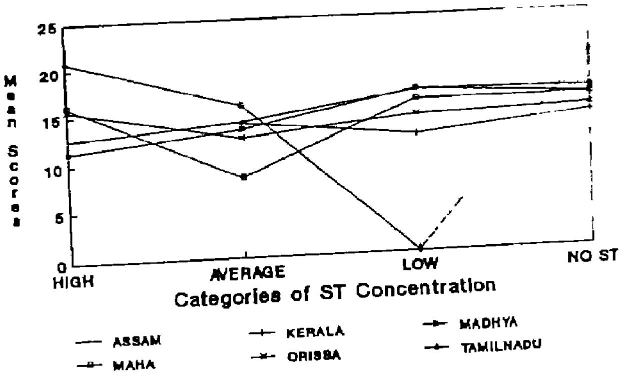
Trained Teachers



Days of Inservice Training



Years of Teaching Experience



Multigrade Teaching, Teacher Pupil Ratio and Teacher Attendance

Table 11 gives the results regarding multigrade teaching, teacher pupil ratio and teacher attendance. In Assam, Madhya Pradesh, Maharashtra and Orissa the percentage of teachers reporting multigrade teaching was significantly higher in high concentration category than in other three groups. In Maharashtra, though over all group comparison was not significant but paired group mean comparison indicated significant difference (Z=-1.98, P<.05). The trend indicated less number of teachers involved in multigrade teaching as one goes down to average and low concentration schools (Fig. 9). The difference in teacher pupil ratio was not significant in any of the states except in Madhya Pradesh where the schools with no ST students had higher teacher pupil ratio. Teacher attendance as reported by pupils provided a mixed situation. It was higher in schools with no ST and with low ST student concentration but was not statistically significant. Greater attention is required for equipping teachers with multigrade teaching skills.

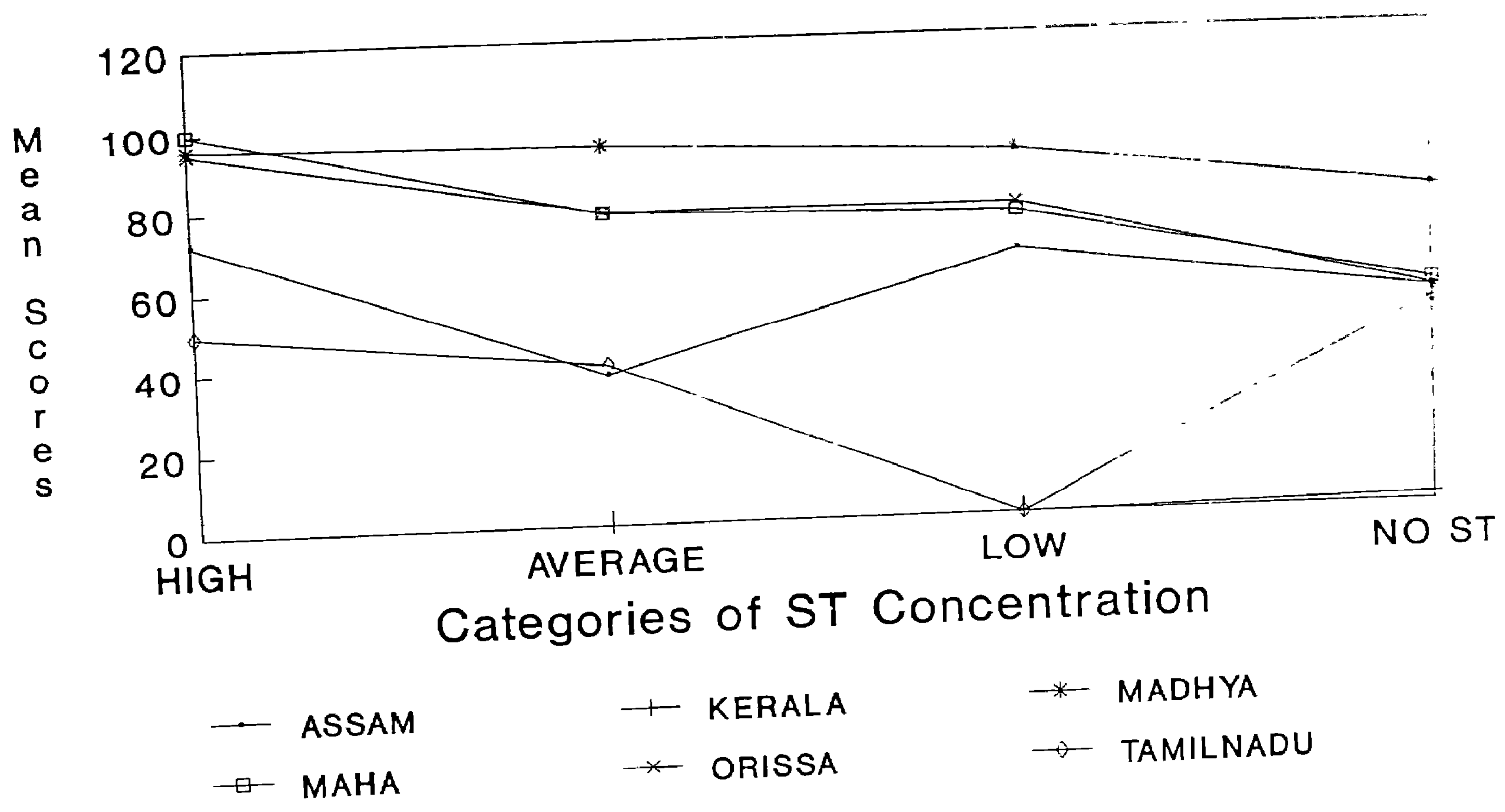
Table 11: Multigrade Teaching, Teacher Attendance and Teacher Pupil Ratio

		Mean, SD and Significane Level									
State	Items	High conc		Average Conc.		Low Conc		No ST		Chi-Square	P-Value
		Mean	S D	Mean	S D	Mean	S.D	Mean	S D		
Assam	Multigrade Teaching	75.32	40.08	37.50	46.02	66.11	45.67	53.85	43.70	8.94	0.03*
	Teacher Attendance	56.58	44.67	92.38	44.87	76.35	38.38	59.85	40.91	3.35	0.33
	Teacher Pupil Ratio	35.09	14.87	34.49	14.17	31.98	11.85	40.43	22.69	1.49	0.68
Kerala	Multigrade Teaching	N A	N A	00	00	00	00	1.66	10.67	0.58	0.74
	Teacher Attendance	N A	N.A	51.33	35.66	35.97	36.46	50.20	30.13	1.84	0.39
	Teacher Pupil Ratio	N.A	N.A	31.67	5.93	32.43	5.90	30.17	10.45	0.18	0.91
Madhya Pradesh	Multigrade Teaching	95.89	16.02	94.54	20.08	91.26	20.31	79.86	34.47	31.62	.001**
	Teacher Attendance	62.61	93.09	54.31	42.00	60.91	42.11	60.57	41.81	1.53	0.67
	Teacher Pupil Ratio	38.24	21.76	46.12	21.11	46.29	20.14	49.37	23.81	21.91	.001**

Table 11: Multigrade Teaching, Teacher Attendance and Teacher Pupil Ratio

		Mean, SD and Significane Level									
State	Items	High cone		Average Cone		Low Cone		No ST		Chi-Square	P-Value
		Mean	S.D	Mean	S.D	Mean	S.D	Mean	S D		
Maha-rashtra	Multigrade Teaching	100	00	77 77	38.49	75 76	42.40	55.74	43.82	6.49	0.09
	Teacher Attendance	72.22	48 43	100	00	93.18	9.84	80 86	33.56	2.63	0.45
	Teacher Pupil Ratio	38.25	13.88	38.73	13 54	35.54	12.99	44.11	19.35	2.95	0.39
Orissa	Multigrade Teaching	94.83	13 44	78.00	28.64	77.97	29.42	54.17	40.69	29.53	.001**
	Teacher Attendance	55.95	44.19	68.23	34.02	81.92	26 41	74.50	32.21	5.25	0.15
	Teacher Pupil Ratio	25 24	13.37	26.61	9 50	31.93	16 49	27.02	12.90	4.40	0.22
Tamil-nadu	Multigrade Teaching	49 62	19 34	40.00	00	00	00	51 17	33.55	0.16	0.92
	Teacher Attendance	92 02	7.19	00	00	00	00	94.18	8.36	0.62	0.43
	Teacher Pupil Ratio	59.25	19.36	56.25	8 84	40.50	00	57.92	31.67	0.76	0.86

Multigrade Teaching
Fig. 9



Instructional Time Use

By and large the difference in time use was not significant in most of the states (Table 12). Only in Madhya pradesh total hours devoted for teaching-learning purpose was significantly higher in the schools of high concentration categories than low ($Z=-3.76$, $P<001$).

Table 12: Instructional Time

		Mean, SD and Significane Level									
State	Items	High conc		Average Conc		Low Conc		No ST		Chi-Square	P-Value
		Mean	S D	Mean	S D.	Mean	S D	Mean	S D		
Assam	Total Hrs Devoted to teaching	940.4	145.9	899.2	110.6	945.6	194.9	923.7	148.6	0.97	0.81
	Time for Discussion with Pupil	23.62	12.34	25.34	12.24	26.52	11.31	27.61	12.69	1.85	0.60
	Time for Group Learning	10.07	6.07	9.89	5.22	8.44	6.83	9.07	6.50	1.18	0.75
	Time for Practice	16.36	7.99	19.44	11.46	12.88	5.93	15.03	5.59	3.42	0.33
	Time for Home Work	15.43	9.17	14.89	5.75	14.43	4.43	14.49	4.98	0.49	0.91
Kerala	Total Hrs. Devoted to teaching	N.A	N.A	920.5	59.8	896.93	53.56	897.2	49.6	4.39	0.11
	Time for Discussion with Pupil	N.A	N.A	36.62	2.67	34.03	8.16	38.50	9.98	2.27	0.32
	Time for Group Learning	N.A	N.A	12.31	4.31	13.42	2.96	10.60	4.34	7.43	0.02*
	Time for Practice	N.A	N.A	13.98	1.49	15.97	3.95	13.03	4.46	4.19	0.12
	Time for Home Work	N.A	N.A	11.43	2.21	9.88	3.02	9.84	3.50	1.44	0.48
Madhya Pradesh	Total Hrs Devoted to teaching	1279.8	150.9	1286.7	145.6	1258.1	196.1	1193.1	190.4	34.13	.001**
	Time for Discussion with Pupil	27.99	18.86	28.00	14.96	27.91	14.66	28.07	16.18	0.61	0.89
	Time for Group Learning	11.84	7.34	11.99	6.75	11.02	5.87	12.17	7.50	1.31	0.71
	Time for Practice	13.76	8.69	14.29	6.52	13.94	6.36	13.80	6.77	1.53	0.67
	Time for Home Work	12.14	7.85	10.24	6.58	11.33	6.16	11.36	5.94	2.54	0.47

Table 12: Instructional Time

		Mean, SD and Significane Level									
State	Items	High conc		Average Conc		Low Conc.		No ST		Chi-Square	P-Value
		Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D		
Maharashtra	Total Hrs Devoted to teaching	1506.0	283.0	1333.8	65.02	1275.4	286.6	1212.5	286.4	4.66	0.20
	Time for Discussion with Pupil	31.48	8.10	34.92	14.77	35.54	15.08	28.36	13.78	3.18	0.36
	Time for Group Learning	11.75	3.70	13.05	5.22	8.71	8.15	10.65	7.10	1.23	0.74
	Time for Practice	13.20	2.44	15.87	1.69	14.09	4.01	14.91	5.66	0.84	0.84
	Time for Home Work	9.06	4.60	13.49	9.33	13.21	6.53	13.99	7.52	2.17	0.54
Orissa	Total Hrs. Devoted to teaching	1030.2	177.7	1040.6	223.9	1135.0	139.1	1077.4	163.8	5.19	0.16
	Time for Discussion with Pupil	47.20	19.10	51.06	17.99	50.25	14.96	49.15	15.17	1.66	0.65
	Time for Group Learning	4.48	4.85	5.36	5.35	5.67	5.43	5.02	4.03	1.39	0.71
	Time for Practice	12.54	7.60	9.54	6.70	8.82	5.18	10.55	4.74	7.23	0.06
	Time for Home Work	9.47	4.08	9.44	6.91	7.55	4.57	9.18	4.13	4.42	0.22
Tamilnadu	Total Hrs Devoted to teaching	1097.1	42.1	1009.3	00	00	00	1076.7	47.7	1.96	0.37
	Time for Discussion with Pupil	33.98	2.39	27.28	00	00	00	37.48	10.55	3.01	0.22
	Time for Group Learning	10.04	1.94	9.18	00	00	00	10.45	4.73	0.41	0.81
	Time for Practice	14.74	2.20	16.47	00	00	00	13.60	4.10	2.54	0.28
	Time for Home Work	12.31	3.02	17.45	00	00	00	11.69	3.35	2.67	0.26

Use of TextBooks

The difference in the various uses of textbooks was not significant in any of the states except in Tamil Nadu where it was used for assigning homework(Table 13). Though it was statistically significant but generalization should be made cautiously due to small sample, specifically in average and low concentration categories.

Table 13: Textbooks Use

		Mean, SD and Significane Level									
State	Items	High conc		Average Conc		Low Conc		No ST		Chi-Square	P-Value
		Mean	S D	Mean	S D	Mean	S D	Mean	S.D		
Assam	Teacher Read Textbook	98.61	8.33	100	00	100	00	97.93	7.81	2.41	0.49
	Child Read Aloud	92.50	24.42	95.50	9.56	92.22	17.16	95.32	13.05	0.78	0.85
	Child Self Read	82.08	36.63	98.00	6.32	95.55	13.33	84.88	30.22	2.59	0.46
	Textbook Homework	96.67	16.90	95.50	9.56	100	00	97.83	7.56	2.95	0.39
Kerala	Teacher Read Textbook	N.A	N A	83.75	11.09	72.33	23.66	79.89	19.54	1.37	0.50
	Child Read Aloud	N A	N A	93.75	12.50	76.83	24.72	83.29	18.71	1.68	0.43
	Child Self Read	N A	N A	100	00	76.83	24.73	84.93	17.70	4.37	0.11
	Textbook Homework	N.A	N.A	90.00	11.55	84.67	13.58	91.75	13.24	4.57	0.10
Madhya Pradesh	Teacher Read Textbook	97.34	13.89	98.70	7.29	98.20	7.83	95.86	15.64	3.92	0.27
	Child Read Aloud	97.10	14.56	90.52	27.24	95.24	15.93	95.69	15.55	2.72	0.44
	Child Self Read	92.51	22.96	94.83	22.34	95.76	15.11	94.43	17.48	2.45	0.48
	Textbook Homework	99.27	6.02	96.55	18.41	98.29	8.38	97.56	11.90	2.64	0.45

Table 13: Textbooks Use											
		Mean, SD and Significane Level									
State	Items	High conc		Average Conc		Low Conc.		No ST		Chi-Square	P-Value
		Mean	S D	Mean	S.D	Mean	S D	Mean	S.D		
Maha-rashtra	Teacher Read Textbook	100	00	100	00	100	00	98.19	8.41	1.04	0.79
	Child Read Aloud	100	00	100	00	100	00	88.28	23.02	6.09	0.10
	Child Self Read	100	00	100	00	97.73	7.54	92.09	20.34	1.83	0.61
	Textbook Homework	100	00	88.89	19.24	93.18	16.17	95.69	14.39	2.37	0.49
Orissa	Teacher Read Textbook	100	00	100	00	98.95	5.89	98.71	4.93	3.67	0.29
	Child Read Aloud	96.55	13.64	94.80	13.27	87.03	30.77	93.38	15.73	2.87	0.41
	Child Self Read	97.13	10.97	96.40	11.13	92.97	20.31	93.78	18.66	1.44	0.69
	Textbook Homework	98.27	9.28	96.00	20.00	98.96	5.89	97.63	9.11	1.29	0.73
	Teacher Read Textbook	100	00	100	00	00	00	100	00	00	–
	Child Read Aloud	97.97	2.78	100	00	00	00	98.50	4.54	2.38	0.30
	Child Self Read	90.32	6.94	100	00	00	00	95.73	9.11	5.38	0.07
	Textbook Homework	100	00	93.33	00	00	00	100	00	42.00	.001**

Home Work

The percentage of teacher s who assign home work frequently are described in Table 14. In Assam the percentage was less in schools with average and high concentration of ST students. Similarly in Madhya Pradesh .less number of teachers gave home work frequently to students of average concentration category. In other states the difference was not significant.

Table 14: Home Work

State	Items	Mean and Standard Deviation								Chi-Square	P-Value
		High conc		Average Conc		Low Conc		No ST			
		Mean	S D	Mean	S D	Mean	S D	Mean	S D		
Assam	Home Work Given	47.45	40.27	34.00	35.42	79.26	27.32	66.04	36.54	13.03	0.01**
Kerala	Home Work Given	N.A	N.A.	80.00	16.33	80.50	29.39	71.03	24.56	2.59	0.27
Madhya Pradesh	Home Work Given	75.84	37.87	67.84	43.49	74.20	37.17	84.44	29.27	11.70	0.01**
Maha-rashtra	Home Work Given	87.5	25.00	100	00	86.36	32.33	82.72	26.01	2.82	0.42
Orissa	Home Work Given	60.57	35.59	66.13	38.36	68.69	31.97	68.63	32.04	0.93	0.82
Tamil-nadu	Home Work Given	94.16	6.04	93.33	00	00	00	95.70	9.60	2.16	0.34

School Health

The difference among different categories of schools were not significant except in respect of immunization and health check up in Orissa where the percentage of schools was significantly higher in the category of no ST and low concentration of ST students in comparison to high concentration category.

Table 15: School Health

State	Health Facility	Percentage of Schools Having the Facility				Chi-Square	P-Value
		High Conc	Average Conc	Low Conc	No ST		
Assam	First Aid Kits	00	00	00	1.9	1.07	0.78
	Health Checkup	22 2	30.0	11 1	12.5	3.64	0.30
	Immunizatio	13 9	30.0	11 1	14.4	1.92	0.59
Kerala	First Aid Kits	N.A	25	40	25.3	1.02	0.60
	Health Checkup	N A	25	10 0	34.3	2 57	0.27
	Immunizatio	N.A	50.0	10.0	27.3	2.56	0.28
Madhya Pradesh	First Aid Kits	5.8	3.4	12 2	11.4	5.50	0.14
	Health Checkup	68.1	77.6	81.1	71.3	5.18	0.16
	Immunizatio	31.9	43 1	50.0	47.3	6.70	0.08
Maharashtra	First Aid Kits	00	00	00	21.3	4.69	0.19
	Health Checkup	50	66 7	63.6	70.4	0.93	0.82
	Immunizatio	50	33.3	54.5	65.7	2.11	0.55
Orissa	First Aid Kits	6 9	4 0	9.4	6.4	0.67	0.88
	Health Checkup	34 5	12.0	37.5	44.9	8.89	0.03*
	Immunizatio	41.4	40.0	56.3	69.2	10.62	0.01**
Tamil Nadu	First Aid Kits	16.7	50 0	00	24.0	1.24	0.74
	Health Checkup	83.3	100	00	95.2	16.75	001**
	Immunizatio	50.0	100	00	66.3	3.62	0.30

IMPLICATION FOR DPEP INTERVENTION

The present study was based on the data collected in Baseline Assessment study. A segment of disadvantaged students, scheduled tribe, was in focus. Accessibility of school inputs to primary schools with different level of concentration of ST students were explored. The generalisation of emerging findings are restricted only to the corresponding districts covered under the study from different states. The generalization also may have serious problem due to differences in ST habitats from state to state. Taking into account the individual need of each district on the basis of tribal concentration necessary intervention can be planned. The implication issues are discussed according to the school inputs covered in the study.

A. Physical Facilities and Services

In almost all the states schools with high, average and low concentration of ST students are functioning in their own permanent building. In contrast the less proportion of buildings have pucca structure though not statistically significant. In Madhya Pradesh schools of high and average concentration categories are lacking pucca building facilities. As evident in baseline study result of this state the rooms are in dilapidated conditions. The same situation may be prevailing in the schools of high and average concentration category. Necessary provision should be made in district plan of Madhya Pradesh to improve the building condition of schools under these category.

Schools of high concentration category in Maharashtra and Tamilnadu and average concentration in Orissa have less furniture and equipments. Either the furniture and equipments are broken and not repaired or may not be used. The fact should be ascertained with proper supervision by the district authority and necessary action may be initiated in this regard.

Provision of drinking water and toilet facilities are not substantial in almost all the states except Kerala. It is significantly less in Madhya Pradesh. These basic facilities should be provided in the schools with high average and low concentration of ST students.

B. OB Scheme and Instructional Aids

The coverage of OB scheme is significantly low in high and average concentration category of Orissa and Tamilnadu respectively. The scheme may be extended to schools of these states. In Madhya Pradesh and Assam schools of high concentration category are lacking instructional aids inspite of average number of schools covered under OB scheme. Further probing is required in this regard. Teacher of these schools should be trained to use the materials provided under OB scheme.

C. Preschool Facility and Pupil Incentive

Preschool experience prepares the child to meet the curriculum demand at primary stage. Eventually it checks the dropout rate. In the same manner the pupil incentive scheme motivate the children to stay at school on one hand and on the other inspire parents to send their children to school. The results reveals that preschool facility is not enough in the school of all categories. The extension of ICDS schemes to these areas or developing a model of readiness by using the low cost aids and locally available materials will solve the purpose. In all the states more than 80 percent of schools are being covered by various incentive schemes. Further in depth study could be taken to prove its effectiveness for tribal children.

D. Teacher Quality

Schools of high and average concentration of ST students in the state of Assam and Madhya pradesh are lacking trained teachers and inservice training facilities. The teachers working in these schools of Orissa and Maharashtra are also deprived of inservices training opportunity. An imperative need for inservice training is raised for the improvement of teaching and learning process in these schools. Formulation of rational teacher recruitment and placement policy is required to equip these school with trained and qualified teachers. Further to motivate and retain these teachers working in schools with high concentration of tribal students, incentive in any form may be provided.

E. Multigrade Teaching

Higher percentage of teachers in high concentration category involved in multigrade teaching specifically in Assam. Madhya Pradesh, Maharashtra and Orissa. If this teaching strategy is not managed properly the performance of children may be deteriorate Strategic guidelines are required to facilitate the 'peer to peer' approach in multigrade teaching situation. School or area based teacher training programme should be organised for these teachers to enhance their teaching competence in multigrade teaching.

In case of teaching patterns, as an input to learning process, no significant difference is obtained among different categories of tribal student concentration. It seems the quality of teaching adopted in these schools are similar to other schools.

REFERENCES

1 Jangira, N.K. and Ahuja, Anupam (1995), *Learning Achievement of Children at Primary Level, A Baseline Assessment Study of four Districts of Haryana,* Department of Teacher Education and Special Education, NCERT, New Delhi.

2 Jangira, N.K and Paranjpe, Sandhya (1995), *Learning Achievement of children at Primary Level, A Baseline Assessment Study in three Districts of Maharashtra*, Department of Teacher Education and Special Education, NCERT, New Delhi

3 Jangira, N K., Singh, Ajit and Yadav, S K. (1994), *Training Needs and Motivation of Primary School Teachers* , Department of Teacher Education and Special Education, NCERT, New Delhi

4. Jangira, N K. and Yadav, D D. (1994), *Learning Achievement of Primary School children in Reading and Mathematics, Baseline Assessment Study of four Districts of Assam,* India, Department of Teacher Education and Special Education, NCERT, New Delhi.

5. Muralidharan, R and Banarji, U. (1974) Effects of Preschool Education on Language and Intellectual Development of Under Privileged Children, *Journal of Education and Psychology*, 32 (1), PP. 10-15.

6. Rath, K.B. and Saxena, R R. (1995) *School Effectiveness and Learning Achievement*, A DPEP Baseline Achievement Study in the State of Tamilnadu, (Draft Report), Department of Measurement Evaluation, Survey & Data Processing, NCERT, New Delhi.